

REMARKS

This is intended as a full and complete response to the Office Action dated September 1, 2009, having a shortened statutory period extended one month set to expire on January 1, 2010. Please reconsider the claims pending in the application for reasons discussed herein.

Claim Rejections - 35 USC § 103

The Examiner rejected claims 5-8 under 35 U.S.C. 103(a) as being unpatentable over US 4,964,397 to Purcell in view of NO 63947 to Cappelen and US 4,502,395 to Barnett. The Examiner rejected claim 7 under 35 U.S.C. 103(a) as being unpatentable over Purcell in view of Barnett and in further view of Cappelen. The Examiner rejected claims 9-20 under 35 U.S.C. 103(a) as being unpatentable over Purcell in view of Cappelen. Applicant respectfully traverses the rejection.

According to MPEP 2143, to establish a *Prima Facie* case of obviousness, there must be some suggestion or motivation to modify the references. Further, a reasonable expectation of success is required. One skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1395 (2007). It would not have been obvious for a person having ordinary skill in the art to combine Purcell with Cappelen (and other cited references) to arrive at an afterburner device for supplying fresh, heated air to an upper zone of a combustion chamber in an existing traditional stove or a method of installing the afterburner device in the existing traditional stove as recited in the claims. Purcell discloses a reflector that may be installed in "devices where fires are burned in open sided fireboxes" (see Purcell, col. 3, line 9) to increase the heat radiated from a conventional fireplace into a living room. It should be noted that all fireplaces of concern in Purcell have open sided fireboxes, and relate to *certain* open sided stoves such as, e.g., top-feed wood pellet stoves, where fires are burned in open sided fireboxes (see Purcell, col. 3 lines 6-9). In other words, the reflector disclosed in Purcell

is to be used with open sided fireboxes and open sided stoves rather than a traditional stove which has four walls.

A skilled person familiar with the device of Cappelen would hardly install the reflector of Purcell in a traditional stove having four walls and thus lacking the opening through which heat is to be reflected. The only suggestion a skilled person would get from Purcell, is that it is possible to install a reflector in an open sided firebox. Installing a reflector according to Purcell in a traditional stove would involve simplifying it to the point where it is not a reflector anymore, as there is no need for a reflector in a stove having four walls and no opening through which the heat can be reflected. Stating that Purcell teaches installing the reflector in an existing traditional stove is stretching Purcell a bit far. Implying that this alleged disclosure of installing afterburners in fireplaces should make it obvious to install the device of Cappelen in an existing traditional stove is stretching matters still further, and would clearly indicate an inventive step.

Further, to make Purcell look vaguely similar to an afterburner for an existing traditional stove, one just has to disregard the context of Col. 3, lines 6-9, jump to line 10 and omit a "certain" in line 12. This would, however, only be meaningful with the benefit of knowing the present invention, and thus indicates hindsight. To arrive at an afterburner as recited in the claims for an existing traditional stove would not be obvious in light of the combination of Purcell and Cappelen.

Regarding the assertion by the Examiner that the combination of Purcell and Cappelen would be obvious because it would minimize the complexity of the device and reduce the cost by using less material to construct the afterburner (Office action, page 3, 1st paragraph), Applicant notes that if such simplification really was obvious to one skilled in the art, it would likely appear somewhere in the literature in general, and in the patent literature in particular. However, the closest example found seems to be some terms in Purcell pulled out of context in combination with a Norwegian patent from 1940. The fact that no closer example has been found indicates that the simplification is not so obvious.

Next, consider the secondary air aperture provided in the traditional stove. Cappelen shows a secondary aperture 17 providing secondary air from the atmosphere through nozzles 19 in a plate 15 into a firebox or combustion chamber 1. The opening

17 is provided during manufacture of the stove. However, forming a secondary aperture in the wall of an existing traditional stove is another matter altogether, and is definitely not something a person of ordinary skill would do on his or her own accord. Hence, providing a device similar to the one disclosed in Cappelen for use in an existing traditional stove would not be obvious to anyone skilled in the art, and hence provide an indication that afterburner recited in the claims is not obvious.

Incidentally, Barnett shows a channel providing secondary air to the bottom of the combustion chamber, whereas the present invention provides fresh air to the bottom of the chamber formed by the folded plate assembly and an inner wall of the combustion chamber. This is known from Cappelen. Cappelen also shows that this secondary air is further admitted into the combustion chamber. Hence, Barnett hardly discloses anything new over Cappelen in this respect.

On page 4 of the Office Action, the Examiner states that all of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known method with no change in their respective functions. As set forth herein, the intermediate reflecting wall of Purcell would need a modification to a point where it is no longer a reflector, and thus has a change in its function. This device would further need to be simplified to a point where it is hardly new over Cappelen in order to fit the description of the present invention.

As the foregoing illustrates, the Examiner's interpretation of Purcell indicates hindsight. Further, the combination of Purcell and Cappelen does not render the claims obvious. Additionally, the invention provides an inventive step over Cappelen and over Cappelen in view of Purcell and/or Barnett. Therefore, Applicant respectfully requests the 103(a) rejection of the pending claims be removed and allowance of the same.

Conclusion

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully requests that the claims be allowed.

Respectfully submitted,



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